

## ABSTRACT

A method for audio downmix apparatus with dynamic-range control includes steps as follows. The procedure first calculates the power of a surround audio channel and a central audio channel and then estimates  
5 whether a gain of the surround audio channel and the central audio channel saturate or not. When the gain is saturated, the procedure enters a step for adjusting a gain of dynamic range control; while the gain is not saturated, the procedure enters a saturation process. After the step of adjusting a gain of  
dynamic range control, then processes a gain calculation; and then changes  
10 the gain and estimates whether the gain reaches a default value or not. When the gain reaches the default value, then the gain will be outputted. When the gain does not reach the default value, continues to process the gain calculation and change the gain.